

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed October 7, 2003 (the "Office Action"). In order to advance prosecution of this case, Applicants withdraw from prosecution Claims 1-36, 47-84, and 103-107. Therefore, Claims 37-46 and 85-102 remain pending in the Application. Applicants respectfully request reconsideration and favorable action in this case.

Election Restriction

The Office Action states that Claims 1-26, 47-84 and 103-107 are withdrawn from further consideration by the Examiner. *See* Office Action, ¶5. Applicants note however that Claims 1-36, 47-84 and 103-107 were withdrawn from examination as being drawn to a non-elected invention. Applicants reserve the right to file a divisional application which presents the subject matter of Claims 1-36, 47-84 and 103-107 on the merits.

Amendments to the Specification

The Related Applications paragraph of the Specification has been amended to insert the serial numbers of co-pending application Serial Numbers 09/513,912, 09/513,913, 09/513,592 and 09/513,914.

Section 112 Rejections

The Examiner rejects Claims 37-46 and 85-94 under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. The Office Action contends that the claims contain subject matter not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. *See* Office Action, ¶ 7. Applicants respectfully traverse these rejections for the reasons discussed below.

A written description requirement issue generally involves the question of whether the subject matter of a claim is supported by the disclosure of an application as filed. *See* MPEP § 2163.01. The subject matter of the claim need not be described literally in order for the disclosure to satisfy the description requirement. *See* MPEP § 2163.02. The MPEP states

that the Examiner should "provide reasons why persons skilled in the art at the time the application was filed would not have recognized the description of this limitation in the disclosure of the application as filed." MPEP § 2163.04. "A typical reason points out the differences between what is disclosed and what is claimed." *Id.*

The Office Action specifically suggests that the Claim 37 limitation (and similar Claim 85 limitation) "transitioning the wireless node to a normal operating state in response to determining the operational data is within predefined parameters" does not comply with the written description requirement. However, as the Office Action points out, Applicants' specification includes descriptions of various embodiments supporting the limitation (e.g., page 22, lines 5-22 and page 35, line 6 - page 36, line 23). *See Office Action, ¶ 7.* Specifically, for example, Applicants' specification states "[a]fter operational thresholds have been met for a specified period of time, the wireless router 30 transitions to the operational state 224." *See Specification, page 22, lines 16-19.* Applicants respectfully submit that this disclosure corresponds to what is claimed and is sufficient to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.

The Office Action specifically states that "applicant fails to disclose how to determine when to transition to a 'normal operating state'" *See id. (emphasis in original).* Applicants believe this contention in the Office Action is actually a question of enablement under 35 U.S.C. § 112, first paragraph, instead of one concerning reasonable conveyance of possession of the claimed invention. As such, Applicants will discuss the enablement issue.

"The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." *United States v. Telecommunications, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988). As long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of 35 U.S.C. § 112 is satisfied. *See In re Fisher*, 427 F.2d 833, 839 (CCPA 1970). A specification disclosure that contains a teaching of the manner and

process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as in compliance with the enabling requirement of the first paragraph of § 112 unless there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support. *See In re Marzocchi*, 439 F.2d 220, 223 (CCPA 1971). Moreover, "[a] patent need not teach, and preferably omits, what is well known in the art." MPEP § 2164.01.

As indicated above, the Office Action states that "applicant fails to disclose how to determine when to transition to a 'normal operating state' (i.e., how to determine when operational thresholds have been met)." *See* Office Action, ¶ 7 (*emphasis in original*). The Office Action asserts that there is "no correlation in applicant's specification between the operational thresholds 80 as shown in figure 3 (i.e., '% call blocks', '% failure', '% drops', '%max delay', '% FER', 'Max RTT') and the collected operational parameters for a step of determining. In addition, it is also unclear how parameters would be modified (in reference to page 22, lines 8-16) to 'ensure maximum efficiency and minimum RF interference' [page 22, lines 35-26]." *See id.*

Applicants respectfully submit that the specification contains sufficient information to enable one skilled in the art to make or use the claimed invention without undue experimentation with respect to "transitioning the wireless node to a normal operating state in response to determining the operational data is within predefined parameters." For example, in a particular embodiment, examples of operational data may include real time statistics such as handoff requests and signal strength measurements as well as access failures, call drops and handoff data. *See, e.g.*, Specification, page 35, lines 6-22. The specification contemplates functionality being carried out through a computer. *See, e.g.*, page 51, lines 4-5. Applicants respectfully submit that one reasonably skilled in the art would be able to program computer implementable instructions to determine when operational data such as handoff requests, signal strength measurements, access failures, call drops and/or handoff data was within predefined parameters without undue experimentation. Moreover, Applicants respectfully submit that one reasonably skilled in the art would be able to program

computer implementable instructions to transition a wireless node to a normal operating state in response to making such determination. Therefore, Applicants' specification contains sufficient information to enable one skilled in the art to make or use the claimed invention without undue experimentation with respect to the element "transitioning the wireless node to a normal operating state in response to determining the operational data is within predefined parameters."

Claims 37-46 and 85-94 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse these rejections for the reasons discussed below.

The Office Action asserts that "the term 'predefined parameters' . . . is not clearly defined in applicant's specification." *See* Office Action, ¶ 9. The test for definiteness is "whether the scope of the claim is clear to a hypothetical person possessing the ordinary level of skill in the pertinent art." MPEP § 2171. Applicants respectfully submit that the meaning of "predefined parameters" would be clear to such a hypothetical person. Applicants' specification discloses examples of various types of parameters, such as threshold parameters. *See* Specification, page 15, lines 5-25. Moreover, specific examples of threshold parameters are also disclosed. For example, percentage of call blocks, percentage of access failures, percentage of call drops, maximum delay, packet error rate, maximum round trip delay and frame error rate may be threshold parameters. *See id.*, page 16, lines 25-28. The meaning of the term "predefined" would certainly be clear to one of ordinary skill in the art. Applicants thus respectfully submit that the meaning of "predefined parameters" would be clear to a hypothetical person of ordinary skill in the art.

Section 103 Rejections – Claims 37-40, 44-46, 85-88 and 92-94

The Examiner rejects Claims 37-40, 44-46, 85-88 and 92-94 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,949,760 to Stevens et al. ("Stevens") in view of "On the Performance of a Routing Protocol for the Reconfigurable Wireless Network" of

Haas et al. ("Haas"). Applicants respectfully traverse these rejections for the reasons discussed below.

In order to establish a *prima facie* case of obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. *In re Royka*, 409 F.2d 981 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970).

Claim 37 includes "transitioning the wireless node to a normal operating state in response to determining the operational data is within predefined parameters." Claim 85 includes a similar element. The Office Action indicates that *Stevens* is silent regarding this limitation. *See* Office Action, ¶ 11. The Office Action states that "*Stevens* discloses reverting back to a learning state when the network changes or maintaining the current state when the network is consistent. In other words, the reference teaches: 'in response to determining the operational data is within predefined parameters.'" *See id.* Applicants respectfully disagree. *Stevens* does not include any disclosure regarding determining that operational data is within predefined parameters. *Stevens* discloses optimizing based on desired performance criterion. *See Stevens*, col. 3, lines 8-11. The optimization results in a set of potential link assignments and ultimate frequency and time slot allocations. *See id.*, col. 3, lines 25-33. Thus, in *Stevens* once the allocations are made, the performance criterion is being met since the optimization was performed based on the performance criterion. Therefore *Stevens* does not teach determining that operational data is within predefined parameters. Moreover, there is no motivation for such a step in *Stevens* since, as stated above, once the allocations are made, the performance criterion is being met. As the Office Action points out, *Stevens* discloses that neighborhood position changes may result in changing link assignments, however there is no disclosure or motivation for determining that operational data is within predefined parameters.

The Office Action states that *Haas* provides a further motivation for a need for nodes to reconfigure themselves if predefined parameters are not within thresholds. *See id.* However, the element indicated as deficient in *Stevens* is not a "reconfiguring" step, it is

transitioning the wireless node to a normal operating state in response to determining the operational data is within predefined parameters. Moreover, while *Haas* discloses reconfigurable networks, there is no disclosure for determining that operational data is within predefined parameters or transitioning to a normal operating state upon such an event. Furthermore, as indicated above, one would not be motivated to perform this element in *Stevens* since the performance criterion is already being met in *Stevens* once the allocations are made.

Therefore, for at least these reasons, Applicants' respectfully submit that Claims 37 and 85 are patentable over *Stevens* in view of *Haas* and request that the rejections to Claims 37 and 85 be withdrawn.

Claims 38-40 and 44-46 each depends from Claim 37 and therefore includes each of the elements of Claim 37. Applicants thus respectfully request that the rejections of Claims 38-40 and 44-46 be withdrawn because, as discussed above, Claim 37 is patentable over the cited art used in the rejection..

Claims 86-88 and 92-94 each depends from Claim 85 and therefore includes each of the elements of Claim 85. Applicants thus respectfully request that the rejections of Claims 86-88 and 92-94 be withdrawn because, as discussed above, Claim 85 is patentable over the cited art used in the rejection..

Moreover, Claim 39 recites "modifying a list of neighboring nodes in the learning state based on the operational data" and "modifying the operating parameters to account for the modified list of neighboring nodes." Claim 87 includes a similar element. As the Office Action points out, *Stevens* discloses creating position information of a node's position with respect to a community of neighborhoods. *See* Office Action, ¶ 11. However, *Stevens* does not disclose, teach or suggest modifying a list of neighboring nodes in a learning state based on operational data or modifying operating parameters to account for the modified list of neighboring nodes. For at least this additional reason, Applicants respectfully request that the rejections of Claims 39 and 87 be withdrawn.

Section 103 Rejections – Claims 95-102

The Office Action rejects Claims 95-102 under 35 U.S.C. § 103(a) as being unpatentable over *Stevens* in view of *Haas* and in further view of "Internet Based Mobile Ad Hoc Networking" of Corson et al. ("Corson"). Applicants respectfully traverse these rejections for the reasons discussed below.

Claim 95 recites "automatically determining a Internet protocol (IP) topography for a wireless router" and "automatically determining a radio frequency (RF) topology for the wireless router based on information exchanged with neighboring wireless routers identified using the IP topology." As the Office Action states, neither *Stevens* nor *Haas* disclose IP topography. *Stevens* discloses forming a grid network or mesh topology. *See Stevens*, col. 3, lines 44-46 and Figure 2. *Stevens* deals with radio frequency connectivity. *See id.*, col. 1, lines 38-40. Thus, Figure 2 of *Stevens* and its related description discuss forming a topology of radio frequency connectivity without using an IP topography. Therefore, there would be no motivation to automatically determine a radio frequency topology based on information exchanged with neighboring wireless routers identified using an IP topography in *Stevens*, since the radio frequency topology in *Stevens* can be formed without having to use an IP topography.

Moreover, there is no disclosure in *Stevens*, *Haas* or *Corson* for automatically determining an IP topography for a wireless router. *Corson* merely discloses mobile routers running IP but does not disclose, teach or suggest automatically determining an IP topography for a wireless router. Since *Stevens* discloses forming a radio frequency topology without having to use an IP topography, there would be no motivation for one using *Stevens* to even determine an IP topography in order to determine a radio frequency topology.

Therefore, for at least these reasons, Applicants respectfully submit that Claim 95 is patentable over *Stevens*, *Haas* and *Corson* and request that the rejection of Claim 95 be withdrawn.

Claims 96-102 each depends from Claim 95 and therefore includes each of the elements of Claim 95. Applicants thus respectfully request that the rejections of Claims 96-102 be withdrawn because, as discussed above, Claim 95 is patentable over the cited art used in the rejection..

Moreover, Claim 96 recites information exchanged comprising access technology of the wireless router, Claim 99 recites information exchanged comprising interference parameters of the wireless router, Claim 100 recites information exchanged comprising channel configuration information of the wireless router and Claim 101 recites information exchanged comprising control parameters of the wireless router. *Stevens* discloses nodes transmitting self information, such as an identification number, traffic load (e.g., potential destination, quantities, traffic, priority) and available power. *See Stevens*, col. 2, lines 45-51. *Stevens*, however, does not disclose, teach or suggest exchanging access information, interference parameters, channel configuration information and control parameters of a wireless router. For at least these additional reasons, Applicants respectfully request that the rejections of these claims be withdrawn.

Section 103 Rejections – Claims 41-43 and 89-91

The Office Action rejects Claims 41-43 and 89-91 35 U.S.C. § 103(a) as being unpatentable over *Stevens* in view of *Haas* and U.S. Patent No. 6,421,731 to Ciotti Jr. et al. ("Ciotti"). Applicants respectfully traverse these rejections for the reasons discussed below.

Claims 41-43 each depends from Claim 37 and therefore includes each of the elements of Claim 37. Applicants thus respectfully request that the rejections of Claims 41-43 be withdrawn because, as discussed above, Claim 37 is patentable over the cited art used in the rejection.

Claims 89-91 each depends from Claim 85 and therefore includes each of the elements of Claim 85. Applicants thus respectfully request that the rejections of Claims 89-91 be withdrawn because, as discussed above, Claim 85 is patentable over the cited art used in the rejection..

Moreover, Claim 41 recites "transitioning from the normal operating state back to the learning state in response to determining the operational data is outside the predefined parameters." Claim 89 includes a similar element. The Office Action states that support is provided "in general" by Ciotti using update messages from the network. The Office Action cites Figure 11a of *Ciotti* which discloses updating a routing table. The routing table is updated either in response to a router advertisement or a router solicitation. *See Ciotti*, Figures 11a and 11e. The Office Action states that *Ciotti* discloses motivation for transitioning back to a known state "in general" such that a skilled artisan would be motivated to transition back to a known state if changes in general occur in the network. However, there is no disclosure, either in *Ciotti* or *Stevens* for determining that operational data is outside predefined parameters. "Changes in general" that occur in the network does not mean that operational data would be outside predefined parameters. Therefore, for at least this additional reason, Applicants respectfully request that the rejections of Claims 41 and 89 be withdrawn.

CONCLUSIONS

Applicants have made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicants respectfully request full allowance of all pending claims.

If the present application is not allowed and/or if one or more of the rejections is maintained, Applicants hereby request a telephone conference with the Examiner and further request that the Examiner contact the undersigned attorney to schedule the telephone conference.

No fee is believed to be due. However, the Commissioner is hereby authorized to charge any fees to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

BAKER BOTT S L.L.P.
Attorneys for Applicants



Chad C. Walters
Reg. No. 48,022

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CORRESPONDENCE ADDRESS:

BAKER BOTT S L.L.P.
2001 Ross Avenue, Suite 600
Dallas, Texas 75201-2980
(214) 953-6511

X Customer Number: **05073**